CHRISTIAN SCIENCE MONITOR
3 January 1985

Quest for stability in nuclear age

Improved technology makes deterrence more difficult

By Brad Knickerbocker
Staff writer of The Christian Science Monitor

Washington

In the five years since the United States and the Soviet Union concluded the second strategic arms limitation treaty (SALT II), the nuclear arms race has moved into new and potentially troubling areas.

Both superpowers have improved their arsenals of destruction. Advanced technology has increased the accuracy, mobility, and stealth of long-range nuclear weapons to where the basis for deterrence — the certainty of unacceptable retaliation — is threatened. New developments are moving the possibility of attack into space. Both sides are pushing at treaty limits — and sometimes exceeding them — as each seeks advantages and compliance verification grows harder.

This, experts say, could lead to a less stable world, one in which it may well become more difficult to achieve an arms reduction agreement and one in which crises are harder to manage.

The nuclear giants are not the only ones with a stake in this. In opening the UN session on disarmament last month, UN Secretary-General Javier Perez de Cuellar echoed the increasing concern among nations of lesser military might when he said, "The responsibility assumed by the great powers is now no longer to their populations alone: It is . . . to all of us."

Similarly, the Aspen Institute International Group (which includes prominent public figures from the US, Western Europe, and Japan) recently warned that behind deterrence "yawns the atomic abyss."

"Our fundamental concern . . . is not simply to have fewer weapons or simply to get an agreement with the Soviets," Rep. Les Aspin (D) of Wisconsin, a leading congressional figure in military and strategic affairs, told the Chicago Council on Foreign Relations recently. "Our fundamental concern is to achieve a stable strategic environment, one in which neither side is pushed by fear of suffering a nuclear attack into resorting to nuclear attack first."

The issue of nuclear stability was the underlying message of the President's Commission on Strategic Forces, chaired by retired Air Force Lt. Gen. Brent Scowcroft.

This panel of experts urged movement away from multi-warhead missiles, especially land-based missiles, which are increasingly threatening yet also vulnerable "high-value" targets. Restructuring deterrent arsenals in this direction — through arms control agreements as well as technological developments — would be harder for the Soviet Union than for the US, since the Soviets are heavily dependent on land-based intercontinental ballistic missiles (ICBMs).

Meanwhile, since the SALT II talks ended in 1979 new developments in nuclear weaponry have escalated the arms race. This despite the fact that both sides are generally abiding by the accord, even though the US Senate never ratified it.

The Soviet Union is testing its fifth generation of ICBMs, including more reliable solid-fuel missiles. Suspicions about possible SALT violations have been aroused because much of the Soviet missile data is transmitted by secret code.

The Soviets have deployed nearly 400 medium-range SS-20 ballistic missiles targeted against Western Europe and US allies in the Far East. Each missile carries three warheads. Some experts say that by reducing the SS-20 payload, a missile could reach the US itself.

A new long-range strategic bomber — the Blackjack — is being tested, and in 1984 the Soviets began deploying long-range cruise missiles on other aircraft. Long-range nuclear cruise missiles are now aboard submarines as well, and the Soviet fleet now includes a new class of very large ballistic-missile-carrying submarine — the Typhoon.

Western analysts are also concerned that the Soviet Union may be positioning itself to "break out" of the Anti-Ballistic Missile Treaty of 1972 with the construction of a large phased-array radar in Siberia and the testing of air defense rockets

Continued

in an antimissile mode. While cautioning that the Pentagon may be guilty of "threat inflation" in describing the Soviet arsenal, William Arkin and Jeffrey Sands, part of a group of experts working on a series of books describing nuclear arsenals, agree that "a substantial US lead in numbers of warheads can no longer be taken for granted."

US modernizing its weapons

Defense Secretary Caspar W. Weinberger and other Reagan administration officials give the impression that the US has been fiddling while Soviet weapons builders burned the midnight oil. But in fact the US has been modernizing.

The US Minuteman ICBM was first placed in concrete silos 18 years ago. But since then, its silos have been hardened, its warheads increased, and the accuracy of those warheads improved so that it is more accurate than any Soviet ICBM.

The US strategic submarine fleet is more widely dispersed and more reliable, and warheads on the US Navy's submarine-launched ballistic missiles are much more numerous and accurate than Soviet SLBMs. The Trident II submarine program, featuring very accurate missiles that can attack hardened targets, has been accelerated.

This past year, the US began deploying long-range Tomahawk cruise missiles, with nuclear warheads, at sea. And air-launched cruise missiles with nuclear warheads are now carried on B-52s. New B-1B strategic bombers have begun rolling off production lines, and research on "stealth" aircraft and cruise missiles (able to counter enemy radar) has been accelerated.

NATO has begun deploying US-built ground-launched cruise missiles (GLCMs) and Pershing II ballistic missiles in Europe. The Pershing II has a maneuverable warhead, which makes it extremely accurate. And if Pentagon weapons experts are to be believed, the terrain-hugging cruise missile can hit a window in the Kremlin.

While the US considers the new Pershing II and GLCM to be medium-range missiles and not deserving of a Soviet response against the US itself, perceptions in Moscow may be what count. And Soviet leaders believe it irrelevant whether a US missile is launched from South Dakota or England.

The US also has started testing an advanced antisatellite weapon. And it has launched what the Reagan administration calls its Strategic Defense Initiative to research ways to defend against a missile attack using space-based systems. Critics say such a "star wars" plan could violate the ABM Treaty, destabilize the strategic balance, and undercut deterrence.

What experts find particularly troubling is the development and deployment of small, mobile, highly accurate nuclear weapons. These are hard to track and therefore likely to proliferate if not controlled by mutual agreement.

"Flight times are getting shorter and accuracy is getting greater, so the time [for] decision in time of crisis is shrinking," says William Ury, director of the Nuclear Negotiation Project at the Harvard Law School. "The thing that concerns me is that the pace of technology is outstripping the pace of the diplomats."

Two challenging issues

These two issues — the addition of missile defenses to the strategic equation and the proliferation of easy-to-conceal weapons — are likely to be the most difficult for US and Soviet negotiators to resolve at Geneva.

Meanwhile, the unratified SALT II treaty expires at year's end, and arms-control advocates are very concerned about what will happen if the arms race proceeds without this agreement. The Federation of American Scientists says that "in an unconstrained arms race, by 1995 the Soviets could deploy as many as 30,000 ballistic missile warheads and 8,000 bomber-launched cruise missiles."

"In a quantitative arms race, which is what SALT II controls, there is every reason to think that America will lose," the federation warned. "After all, the United States has trouble siting a few hundred MX missiles while the Soviet Union enjoys civic passivity. We reject overkill while they traditionally favor it. . . . In the end . . . the more determined is likely to win out. . . ."

As for the accelerating developments in strategic technology, the likely outcome of an arms race is less clear. Weapons are becoming smaller, but much more lethal. At the same time, new developments in sensors, information processing, and a more modern hot line could — in the context of arms reductions and an improved diplomatic atmosphere — make for a safer world.

"In this pursuit of arms control, we will face both the problems and the opportunities presented by technology," observes William Perry, former Pentagon chief of research and engineering, in an Institute for Contemporary Studies paper. "Our challenge will be to seize the opportunities and overcome the problems."

The superpower weapons race heads into Earth orbit

From the launch of the first Russian Sputnik a quarter-century ago, which brought warnings of Soviet nuclear thunderbolts, space has been the 20th-century military frontier.

For years now, the United States and the Soviet Union have had the ability to hurl hundreds of ballistic missiles, carrying thousands of nuclear warheads, through space.

But more recent developments in space may radically change the basis of nuclear deterrence, which is that both sides are mutually vulnerable and therefore unlikely to launch an attack in the first place. Whether this will be for better or worse undoubtedly will be the most controversial subject for discussion when superpower arms talks resume in Geneva next week.

Continued

Questions about the value of "mutual assured destruction" as well as technological advances are moving both superpowers in the same direction regarding space: looking for ways to attack each other's satellites (which would play a key role in launching and directing conventional as well as nuclear war), and lessening the vulnerability to nuclear attack by destroying missiles and warheads in midflight.

The Soviet Union has a system of interceptor missiles around Moscow, as allowed under the Anti-Ballistic Missile Treaty of 1972. The ABM agreement limits each side to 100 antimissile rockets at a single site.

But US intelligence and defense officials are concerned that the Soviets are preparing to "break out" of the ABM Treaty by expanding their missile defense system to cover much more of the nation. These officials point to the upgrading of the Moscow system, the construction of a large phased-array radar in Siberia, the testing of advanced antiaircraft systems against ballistic missiles, and considerable laser research.

US officials also repeatedly point out that the Soviet Union has the world's only operational antisatellite (ASAT) system. Mounted on large rockets, these devices orbit the earth several times, rendezvous with satellites, and explode. Some US officials also say the Soviets may have begun aiming lasers at US satellites in low-Earth orbit.

Even critics of the Reagan administration acknowledge that the Soviets may be stretching, if not violating, the ABM Treaty's restrictions.

But they play down the utility of the Soviet ASAT system. They note, for instance, that all of the tests of this ASAT in the more advanced infrared-homing mode have failed. And they say that the active radar device used on the earlier version of the Soviet ASAT could easily be "spoofed" with electronic countermeasures.

US AIR FORCE

US Air Force F-15 carrying an ASAT missile

The knowledge that they are at least several years behind the US in the more advanced ASAT and antimissile technologies (especially sensors and information processing) is behind the Soviet call for a moratorium on ASAT testing and space-based missile defenses.

But the Reagan administration is very wary of any effort to stifle US efforts in this area. The President has made it clear that he wants to find a way of rendering nuclear warheads "impotent and obsolete," and he has said that finding a way to verify an ASAT ban is extremely difficult, if not impossible.

The Pentagon has conducted three tests of its ASAT device, a miniature homing vehicle fired into space by a small rocket carried by an F-15 fighter. The first test against a target in space is scheduled for this spring. Experts say such a weapon could be much more effective than the relatively cumbersome Soviet ASAT and (because of its small size) deployable anywhere a tactical jet can take off and land.

For some years, the US has been spending about $1 billion a year on research related to missile defense. With his controversial "star wars" speech in March 1983, Mr. Reagan launched a five-year, $26 billion Strategic Defense Initiative that has since been accelerated. Officials stress that there is no plan to go beyond the ABM Treaty restraints — at least for the next few years — and that the SDI program is strictly a research effort.

Critics — and there are many of them in the scientific and defense communities — say the President's goal of eliminating the threat of nuclear war through space-based defenses is unattainable. And they warn that such an effort would simply spawn a new arms race, including the deployment of many more Soviet nuclear warheads to overwhelm strategic defense.

All of this could have significant impact on the coming arms talks.

Says former national-security adviser Brent Scowcroft: "I think the Soviets are unlikely to be willing to contemplate significant changes in warhead numbers and [ballistic missile] throwweight if they have to look over their shoulder at some defense system that they may need to penetrate."

— B. K.

Growing nuclear arsenals in Europe have both sides on edge

Washington

Nuclear proliferation on the European continent is an increasingly worrisome factor in arms control.

Alarmed at the new Soviet SS-20 missiles aimed at them five years ago, the NATO countries announced their "dual track" decision. They vowed to deploy new missiles of their own if the parallel effort to negotiate the removal of such weapons failed.

Those intermediate-range nuclear force (INF) talks at Geneva did not result in an agreement. When the deployment of NATO's US-built Pershing II and ground-launched cruise missiles began in late 1983, Soviet ne-

Continued

gotiators walked out of the talks.

The new beginning at Geneva next week finds a steady increase in new medium-range nuclear missiles on both sides, a trend that could accelerate in the future if the refurbished "umbrella" talks are not successful.

At a meeting of NATO defense ministers last month, US Defense Secretary Caspar W. Weinberger announced that the number of operational Soviet SS-20s had increased to 387 missiles and 1,161 warheads (three warheads per missile). Mr. Weinberger said at least nine new SS-20 bases were being built, and that "the rate of construction [had] increased enormously."

Based on this new construction, Assistant Secretary of State Richard Burt said recently, "it is possible at this stage to suggest that the ultimate number of SS-20 deployments . . . is likely to range between 450 and 500."

The SS-20 represents a significant advance in Soviet missilery. The two-stage rocket is solid-fueled, therefore more reliable and able to react more quickly. And it is mobile, and therefore easier to hide and harder to verify. Some Western analysts say the SS-20 could be made intercontinental (and therefore able to reach US targets) by lightening its warhead load. The SS-20 reportedly has been flight tested in an over-the-North Pole direction.

'New British and French nuclear forces will present the Soviet bloc with an entirely new . . . situation.'

Some analysts say that neither the new NATO missiles nor the SS-20 appreciably changes the military balance in Europe, because theater nuclear weapons have been an important part of both arsenals for years. But the more capable SS-20 and Pershing II are perceived as potential first-strike weapons. And in superpower relations as well as in arms control negotiations, perceptions can weigh more than theoretical military capability.

NATO's planned deployment of 108 Pershing II ballistic missiles and 464 cruise missiles (each with a single nuclear warhead) in five countries does not nearly match warhead for warhead the number of SS-20s already in place.

But Moscow views the Pershing II as particularly threatening because of its accuracy as well as its range and speed. The new missile has a maneuverable warhead, allowing it to fall within 100 feet of its target.

This makes it at least several times more accurate than the SS-20. It can travel farther than the older Pershing I and reach Soviet soil in a few minutes.

Soviet leaders also are concerned about the planned modernization of British and French nuclear forces. Over the next several years, these two countries plan to increase their arsenals of land- and sea-based nuclear warheads fourfold to about 1,200. This will include the new, very accurate and longer-range US-built Trident II missile, to be deployed on British submarines.

"New British and French nuclear forces will present the Soviet bloc with an entirely new strategic situation," warns retired US Army Lt. Gen. George M. Seignious II. "British and French submarines alone will be capable of inflicting staggering damage on the Soviet Union."

While this could turn either of these two US allies into "the world's third nuclear superpower," Mr. Seignious, a former director of the US Arms Control and Disarmament Agency and now vice-chairman of the Atlantic Council, predicts that the Western alliance could in fact be weakened as a result.

"The reason is that they will be deployed largely in potentially vulnerable and destabilizing modes," he wrote in a Foreign Policy magazine article. "Perhaps most important, these forces will almost certainly spark a counter-buildup by the Soviets and fatally complicate the task of arms control."

— B. K.